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CASE OF CHOLERA TREATED BY SALINE INJECTIONS.

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OCTOBER 16. G. R., aged 22, a shoemaker, of temperate habits and feeble health, has suffered mental distress from family events these two days. He had no alvine evacuation yesterday, ate beef and bread at dinner, toast and tea at supper, and was at work in his ordinary state of health. He is habitually costive. At 5, A. M., to-day, he had a copious dejection; seven smaller discharges occurred in the course of two hours. At 11, A. M., he was visited by a physician; he had just come in from the privy with cold skin, feeble pulse, anxious look, and nausea following profuse vomiting. A small dose of rhubarb with camphor was administered, and hot applications were made to the surface.

1, P. M. Lies in bed, making no complaint but of cramps, which are almost entirely confined to the left gastrocnemius; they are rare and slight in the right. No abdominal soreness. Countenance haggard, purplish; dark areolæ round sunken eyes; skin deadly cold; hands of a dirty blue color; skin of the fingers corrugated. The mind is tranquil, or indifferent; the senses perfect; no ringing in the ears. The voice is husky. Respiration is quick, somewhat laborious. Pulse 120, imperceptible in the left wrist, very feeble in the right, not tumultuous in the carotids. Tongue yellowish on surface, dotted red at tip and edges, dry, rough, cold. Thirst not very urgent. Vomiting of a thin fluid of the color of rhubarb. No dejections since 11 o'clock; their color is not known. No urine since 6, A. M.

R. Hydr. Submur. gr. i.

Tinct. Opii gtt. ii. to iv.

To be repeated every ten minutes. If the vomiting ceases, continue the calomel and omit the laudanum. Give drinks sparingly. Apply hot sand to the epigastrium, and hot fomentations to the legs.

3, P. M. Has had one dejection of a half pint of clear, colorless liquid, containing three or four flakes, and looking like pure water into which one may have spit a little phlegm. Has vomited a little yellowish, turbid fluid. Says that he feels quite well, were it not for the cramps. The skin is warm and wet; the face darker; eyes more sunk; fingers more blue and wrinkled; the voice more husky. Buzzing in the ears.

Pulse is imperceptible in both wrists; 120 in carotids. Continue the treatment.

5, P. M. Has taken twenty grains of calomel, most of which, or all, has been rejected. Dejections of colorless fluid, with cream-like mucus. Pulse still imperceptible; voice entirely extinct; respiration high, laborious; skin cold and wet; and all unfavorable appearances are increased. The cramp has extended to the thighs.

Drs. Jackson, Bigelow, Channing and Ware, agreed in the opinion that no hope of recovery remained unless by venous injection. At 6 o'clock a vein was opened in the bend of the left arm, and three pints of the following solution were slowly injected.

Sodæ Muriat. ℥i.

Sodæ Carbonat. gr. vij.

Aquæ, Oi.; 108 deg. to 115 deg. Fahr.

An amendment soon took place in the color and expression of the face, and the pulse returned at the wrists. Towards the close of the operation the patient complained of distress at the præcordia, and the respiration became laborious and irregular. A half pint of blood was allowed to flow from the orifice already made in the vein, and these difficulties subsided. Let a little brandy and water be given occasionally.

10, P. M. The good effects of the injection ceased about 9 o'clock. The skin is now cold; the voice, a whisper; the pulse, gone. The patient says that he feels better, and only needs strength; but all appearances are as adverse as before the operation. The blood drawn at the last visit has not formed any coagulum; the serum has separated, and is coagulated by heat like healthy serum.

A vein was opened above the inner ankle of the left leg, and eight pints were injected by the assistance of Drs. Channing and Ware. The heat of the solution, which was of the same strength as the one used before, was maintained quite steadily at 114 deg. Fahr. The patient did not show any sense of the incisions made now, nor before. During the operation the countenance gradually improved, the surface became warm, the pulse returned, and the breathing was more easy and regular. Towards the close of it the patient, unquestioned, said in a good voice, 'It is astonishing how much better I feel.' He was allowed to take 3ss. of tea frequently; and was left at 1-2 past 12 with warm skin, good complexion and countenance, hands less corrugated, mind occupied about his affairs and relations, and good pulse.

October 17. 8, A. M. Continued warm and comfortable all night; has been free from cramp and vomiting since the first injection. Dejections are frequent, small, thin, colorless, under his control, and preceded by a little griping. No other pain. Skin is warm, soft, elastic; face of good color and expression. Respiration 36, costal, regular. Voice distinct, modulated, a little husky. Pulse 136, regular, more strong in left arm. Tongue is yellowish, dry, dotted red at tip and edges. Apply a blister six by five to abdomen. Coffee and tea in small quantities.

1, P. M. Dejections are frequent, occurring every half hour, thin; the four last are of fecal color, and somewhat fecal smell. Says that he has just passed a very little urine. Other symptoms as at last visit. Arrowroot.

3, P. M. Has had three dejections, thin, more fecal. The countenance is not so easy, the eyes are more sunken. Respiration less regular. Pulse 136, not so firm. Thirst great, but not urgent.

5, P. M. No pain but from the blister, which has drawn well. No dejection. Has vomited, the first time since the first injection, a gill of thin, colorless, inodorous fluid; he says it is the arrowroot. Countenance less natural; voice more husky. Right hand very cool, and the pulse less strong than in the left. Respiration 36, irregular, occasionally a deep inspiration. Pulse 136, feeble. Great desire of cold drink. Omit the arrowroot. Let him have a fluid-ounce of porter every half hour.

10, P. M. Surface warm; circulation active in capillaries of the skin, and veins of the extremities. No pain; no headach. Countenance better. Eyes patient of strong light. Says that he had a buzzing in his ears all day yesterday, but not any to-day: remembers the first injection, but not the second. The mind is collected, active. No dejection. Urgent thirst. Tongue more moist, edges less red. Respiration regular. Pulse 128, full and firm.

R. Pil. Hydrarg. gr. ij.

Saponis gr. ij.

M. ft. pil. sumend. horis singulis.

If the bowels are moved, substitute the following:—Pil. Hydr. gr. ij. Opil. gr. 1-5. Dress blister with Ung. Hydrarg. Porter 3ss. every hour; if any headach, omit it. Cold water frequently. Perfect quiet.

October 18. 5, A. M. One thin, fecal dejection. The skin, particularly of the extremities, of a pink color. Conjunctivæ injected; pupils contracted. Has had some quiet sleep. Pulse 120, regular. Thirst urgent. Pergat.

9, A. M. Two thin dejections of natural color and smell. No pain. No corrugation of the skin. Dark areolæ continue around the eyes. Fur on the tongue is looser. Pulse 116, firm. Continue Pil. Hydrarg. cum Sapon. Omit the porter.

1, P. M. No dejection. Countenance very good, but for the areolæ round the eyes. Pink color of hands and feet continues. Pulse 116. Pergat.

5, P. M. Two small, thin, fecal dejections. Has vomited, once, some of the liquid taken; says that it was caused by wind. No headach. No abdominal soreness. Areolæ less dark. Respiration 20. Pulse 112, regular. Edge of tongue less red. Pergat.

8, P. M. No change. Gets some quiet sleep. Contin. Pil. horis secundis. Soda water, 3j. horis sing. Let not the sleep be broken on any account.

October 19. 3, A. M. At 9, P. M. discharged urine, and had a large dejection; and again both excretions at 2, A. M. Is sleeping. Respiration 20, quite natural; but with some force and sound in expiration. Pulse 104. Pergat.

9, A. M. Three thin, bilious dejections. Has vomited thrice, about three gills of bile. Has discharged a pint and half of clear urine. No pain. Countenance good; areolæ much less marked; con-

junctivæ less injected ; pupils of natural size. Skin of proper temperature. Yawns at times. Respiration natural. Pulse 96, firm, compressible, of good volume. Tongue soft, dryish, cleaning. Less thirst. Omit. pil. Continue soda. Beef-tea 3 ij.

12, M. Rejected the beef-tea 15 minutes after taking it. Discharged a pint of urine at once. Vomited a pint and half of bile at four times. Two bilious dejections. Countenance less bright. Feet not warm. Pulse unchanged. Omit beef-tea and soda water. Cider 3 ss. every hour.

5, P. M. Has taken six ounces of cider. Has passed a half pint of urine, a little cloudy. Has vomited six times, a pint of bile with a little mucus. Five bilious dejections, measuring a quart. Has hiccoughed a little. Complains of distress at epigastrium. Nausea for a short time before vomiting. Countenance haggard ; large areolæ about the eyes. Skin of just comfortable heat. Speaks in a whisper ; can produce voice by an effort. Tongue warm, dryish. Pulse 132, feeble. 3 ss. of punch every half hour.

R. Sodæ Supercarb. gr. xij. Aquæ 3 ij.

Give 3 ss. of the solution every fifteen minutes.

9 1-2, P. M. Is still more sunken ; extremities are cold, and fingers bluish. Has vomited three times, a small quantity of bile. Six scanty, bilious dejections. Respiration laborious. Pulse 140, small, weak. He is hiccoughing.

A grain and half of opium was given ; and with the assistance of Drs. Ware and Hale, arrangements were made to inject a saline fluid into the veins. Before proceeding to the operation, his pulse was found to have become larger and less frequent, his skin to be warmer, and his dejections to have ceased. He had now taken the opium forty minutes ; and it was determined to continue the opium and brandy so long as this amendment proceeded. Repeat the pill at 11, P. M. ; and if any hiccough, or vomiting, or purging, again at 12. Give a teaspoon of brandy in two teaspoons of cinnamon water, every fifteen minutes. External warmth.

2, A. M. Report by Dr. J. B. S. Jackson. Has slept, waking often to ask for drink. Hiccough has been frequent. Hands are warm ; the nose is cold. Sleeps, breathing as if fatigued. Pulse 110, fuller and stronger in both wrists ; very distinct in the left.

Soon after this report, he began to sink further ; and died at 7, A. M.

The body was examined eight hours after death, in presence of Drs. J. Jackson, Channing, Homans, Ware, Hale, and J. B. S. Jackson. *Muscles* rigid. *Face* much sunken ; fuliginous ; very large and dark areolæ round the eyes. *Lungs* much collapsed, crepitant, contained much dark blood. Small old adhesions at apices. *Heart* of ordinary size ; the left side empty ; the right side filled with dark, liquid blood. *Aorta* and *vena cava* full of dark thin blood. *Peritoneum* dryish. *Stomach* thin, flabby, contains a gill of bile. The mucous membrane of natural thickness and firmness ; very red in checkered spots, which at first view represented ecchymosis ; but when the membrane was stretched, the redness was seen to be in the vessels. Mucous membrane of *duodenum* very red. In *jejunum* mucous membrane slightly injected, of natural firmness, in some parts covered with a custard-like or creamy lining.

Stomach contained a gill of thick fluid, like porridge, of light brown color. Its mucous membrane universally red, and at the upper part coated with mucus. At the lower part the membrane was soft, dark-red, clean; the congregate glands enlarged; the solitary glands were very red, greatly enlarged, rising above the level of the membrane like warts. The *large intestines* of ordinary thickness; the mucous membrane of a pale red color, clean as if washed, but not looking soaked. *Liver* mottled on the surface; natural within; gall bladder full of bile. *Spleen* small, firm. *Pelvis of kidney* contained a small quantity of creamy matter. *Bladder* of ordinary size.

Observations.—This patient lived nearly four days after asphyxy and other signs of collapse were so complete that the many physicians who saw him believed that he would die in three or four hours. From Tuesday night, the time of the second injection, to Friday forenoon, he grew steadily better; the natural secretions returned; and strong hope was had of his recovery. It is plain that this amendment is to be ascribed to the injection; and the history of the case is much in favor of the operation. For it roused him from the desperate state of collapse, and at least gave time for the return of the healthy functions. The man, however, was of delicate frame, feeble constitution from childhood, and with health impaired by sedentary habits. When the natural actions returned towards the close of the third day, they became excessive; the urine, which had been suppressed three days and a half, was secreted in the quantity of four pints and more, in 18 hours; discharges of unmixed bile by vomiting and purging occurred almost every half hour; and the patient died at length, exhausted, with bilious cholera. It is to be considered how far this excess of action was produced by the mercurial and the stimulants, the exhibition of which preceded it: probably the chance of complete recovery would have been greater, had the ingesta been limited to mucilages and diluents. The pink color of the skin, particularly in the extremities, was quite remarkable. If it arose from the brightness given to the color of the circulating mass by the admixture of the salts injected, it would show that too much was thrown in. If it is a sign of hypercemia of the capillaries, or their inflammatory condition, produced by the presence of offensive foreign matters (in the language of the nascent pathology an error loci occurring, and the sharp spicula of the salts distending and abrading the small vessels), then we should keep in view the occurrence of the same state in the internal mucous membranes, and be ready to remove it by the abstraction of blood or other more proper means.

Boston, October 22, 1832.

NOTE.—The bright pink color of the extremities is very similar to that which attends the restoration of warmth to hands which have been very much chilled; and it has been suggested that the cause may be the same. Since the date of the communication, I have had an opportunity of seeing three cases of injection into the veins, in which warm water, without salt, was thrown in. The pink color did not show itself in any one of them. I have observed five cases of saline injection; the redness was more or less remarkable in four; its presence in the fifth case is not known, as the patient was not seen after the operation. In one of these cases, the first in which the remedy was employed in this city, the surface in the vicinity of the orifice in the vein became colored a bright crimson after a few strokes of the piston, and the redness was gradually diffused. These facts make it probable that the color is owing to the presence of the salts in the blood.

October 29.

J. G. S.

Monthly Notice of New Publications.

WORKS ON THE CHOLERA.

1. *Facts and Observations upon Spasmodic Cholera, addressed by the Board of Health to the Inhabitants of the City and Banlieu of Quebec, as well as of the Province generally.* Quebec. 1832.
2. *Information for the People on Cholera ; including a Sketch of its History, Symptoms, Preventives, and Treatment.* Philadelphia. 1832.
3. *Hints to the People on the Prevention and Early Treatment of Spasmodic Cholera.* By C. R. GILMAN, M.D. New York. 1832.
4. *Remarks on the Cholera, embracing Facts and Observations collected at New York, during a visit to the City expressly for that purpose.* Providence. 1832.
5. *Report of the Committee of the Kappa Lambda Society, appointed for the purpose of preparing an Account of the Mode of Treatment of Epidemic Cholera.* June. Together with an Additional Report, presented August 15, 1832. New York. 1832.
6. *The Cholera Spasmodica, as observed in Paris in 1832 : Comprising its Symptoms, Pathology, and Treatment. Illustrated by Cases.* By ASHBEL SMITH, M.D., of North Carolina, officially attached to the Necker Hospital, during the prevalence of this Epidemic. New York. 1832.
7. *Cholera, as it recently appeared in the Towns of Newcastle and Gateshead ; including Cases illustrative of its Physiology and Pathology, with a view to the Establishment of sound Principles of Practice.* By T. M. GREENHOW (of Newcastle upon Tyne), Member of the Royal College of Surgeons in London, &c. &c. &c. Philadelphia. pp. 168. 1832.
8. *Sketch of the Progress of the Malignant or Epidemic Cholera, from its Arrival in America. With Tables illustrative of its Progress in the principal Cities it has visited.* By EDWARD WARREN, M.D. Boston. 1832.
9. *A Treatise on Epidemic Cholera ; including an Historical Account of its Origin and Progress, to the present Period. Compiled from the most authentic Sources.* By A. BRIGHAM, M.D. Hartford, Conn. pp. 368. 1832.

It will not be the fault of the present race of physicians if posterity should obtain an inadequate idea of the history of the existing epidemic. At a time when men of science are peculiarly disposed to devote themselves to the task of improving and instructing the public, this propensity in the medical profession has taken almost exclusively the direction of Cholera. The medical pen has been, for the last two years, teeming with productions on this subject ; and we still go on, with unabated vigor and industry, adding to the number. Probably not less than two hundred works on Cholera, including pamphlets, have been published in England and on the European continent, during the prevalence of the disease there. At present, the mania for publication seems distinctly transmitted to this country, and we already rival our transatlantic friends in fertility on this topic. For our own part, we can say that our table is already covered with pamphlets of every variety of dimension, devoted to this all-absorb-

ing topic. To do justice to all of these within the narrow limits of our Journal, would be impossible. Those whose titles stand at the head of this article having been sent us for this department, we trust that a passing notice will not prove unacceptable or useless.

1. To commence with the smallest—The 'Facts and Observations' go to show that the Board of Health of Quebec were not wanting in the discharge of their duties to the public; but that the best information was furnished by them, as to the means of preventing the disease from gaining ground among them, and with regard to the treatment which should be adopted. That these precautions did not prevent the ravages of the destroyer, is no argument that they were useless or ineffectual. The recommendations which are here contained, particularly with regard to clothing, diet and ventilation, are judiciously conceived and simply expressed, and may well be believed to have had an influence in mitigating the horrors of a visitation which they could not avert. Some of the directions in regard to treatment, are indeed of questionable propriety; and the preference given to the actual cautery as a remedy, was scarcely justified by the existing testimony on this subject. With very few exceptions, however, the directions contained in the work do equal credit to the sagacity and the benevolence of the respectable body from which they emanated.

2. The 'Information' professes to give a sketch of the history, symptoms, preventives, and treatment of cholera; and considering the space allotted to each of these subjects, it is surprising how much the author has contrived to say upon all. There runs throughout the whole a strain of practical good sense, which adapts it very well for popular use. Like most works, however, written on medical subjects for general readers, it displays here and there an unnecessary parade of learning, and announces common-places with an air of importance which borders on the ludicrous. Among other helps to the uninitiated, we have at the conclusion of the work a lexicon of medical terms, of which three may serve as a specimen. '*Nosonitatives* are those things which produce disease. *Therapeutics* are those things which restore health. *Fever* consists in a morbid condition of the ganglionic system.'

We should apprehend, that the people for whose benefit the work is intended, would be more likely to be acquainted with fever than with the functions of the ganglionic system. The practical directions, however, are judicious, and are calculated to meet and correct many of the popular errors which have prevailed in regard to the disease.

3. The 'Hints' are well named. It is, in fact, a series of short sayings, but much to the purpose. It is done in a fair type, that he who runs may read; and keeping clear of long words and perplexing arguments, touches concisely on all points which are interesting to the people at large. The two great objects of the work are stated to be the prevention of the dis-

ease if possible, and the cure if needed. The means of prevention are either public or individual. Among the public measures for this purpose, are principally quarantine regulations, which, according to the author, experience has proved to be wholly useless, from the impossibility of their being strictly enforced. The feasible means of prevention are, 1st, cleansing the streets—2d, cleaning the houses of the poor—3d, personal cleanliness—4th, the regulation of the diet. Under each of these heads, Dr. G.'s remarks are clear and judicious. His prohibition of ardent spirit is absolute, as it ought to be, giving no encouragement to any quantity, however small, habitually used. Perhaps he may not be so correct in condemning those authorities abroad, and particularly in Paris, who recommend the moderate use of weak brandy and water. Where the water is impregnated with many impurities, as is the case in that city, the addition of the stimulus may be the least evil of two. Dr. G. concludes with a few words of general advice to those who have the charge of cholera patients, which are by no means inapplicable to other occasions.

4. The 'Remarks' purport to be the work of a Providence physician, who went to New York for the express purpose of studying the disease. It contains, what we have not seen elsewhere, an account of the various modes of practice pursued at the different Hospitals.

5. The 'Report of the K. L. Committee' was prepared in June, previously to the appearance of cholera in New York. It seems to have been principally founded on the statements contained in the printed works to which the reporters had access. A postscript is appended to the report, containing such modifications of their previous views as they were led to adopt after having seen the disease. On the whole, the pamphlet can hardly be considered as possessing any interest at the present time.

6. The character of Dr. Smith's book entitles it to a more extended notice. The author was officially attached to the Hospital Necker, in Paris, during the prevalence of the epidemic; and there appears prefixed to the present work, a testimonial by the physician of that establishment to the zeal and fidelity with which his services were performed. Dr. Smith's description of the disease is one of the most full and vivid that we have seen from any source. The symptoms are described with singular minuteness, and in the most glowing language. It is remarkable, too, how precisely every circumstance which he mentions has been verified on the patients affected with the disease here. Among the characteristics mentioned by Dr. S. which have not so particularly been noticed before, are the deafness, accompanied with a sound of blowing in the ear, and ecchymosis of the conjunctiva below the transparent cornea. The latter symptom we have noticed, particularly in two cases which terminated fatally here; but it appears to us that it came on within an hour before death. We have observed, accompanying this, a depression of the sur-

face of the cornea itself, presenting the appearance of ulceration, which has progressively increased in extent till death, and even for some time after, so as finally to occupy from one third to one fourth of the surface of the cornea. Under the head of treatment, Dr. Smith makes some very sensible remarks on the use of hot air in the stage of collapse. His experience led him to believe, that when the temperature was raised considerably above blood heat, the patient suffered great inconvenience, and was quickly exhausted. He conceives that in cases of impeded respiration, the contact of a comparatively cool air is required, in order that the skin may perform in a degree the function of the lungs in oxygenating the blood. We have noticed, in one or two cases, the uneasiness to which Dr. S. refers, produced by heated substances or hot air applied to the skin, even when to the hand it conveyed the sensation of deathly coldness; but that this was connected with any chemical influence exerted by air on the blood, is an idea which did not before occur to us. Dr. S. mentions that, under certain circumstances, advantage was obtained from frictions with ice—a treatment which was suggested by the analogy between the state of the body in this disease and that produced by freezing. We have also, in an appendix, a detailed account of a few cases, drawn up with great apparent care and accuracy. In fine, we regard this little work as one of the most interesting publications on the subject which we have met with.

7. Mr. Greenhow, whose name stands next on our list, and who is a practitioner in Newcastle upon Tyne, has given us 132 pages on the cholera, besides an appendix. Fifty pages, rather a large proportion, are taken up with details of cases; the remainder consists of Dr. Greenhow's observations. Dr. G. views cholera as presenting four degrees of severity. The three first include cases with vomiting of bilious matters or ingesta, with slight cramps or none, and manageable by the usual remedies; such cases, in fact, as have here been referred to common cholera. This view of the case will serve to explain a fact otherwise inexplicable; that the reputed mortality of the disease, in Newcastle, is less than in any other place where the disease has shown itself. It appears that of 118 cases admitted into hospitals, 70 died, and 48 recovered; while in private practice, of 1330 cases, only 437 were fatal, while 893 terminated favorably. In speaking of the treatment, Dr. G. mentions three remedies which he considers as having claims to be considered as new. These are the mustard emetic, large injections of warm fluids into the rectum, and the tobacco enema. With regard to the efficacy of the two first, we have no hesitation in adopting implicitly the opinions of the author; of the advantage to be derived from the third, notwithstanding the encomiums bestowed on it by Mr. Baird, there is great reason to doubt. The analogy observed between the state of collapse in cholera, and that produced in miners by choke-damp, is very striking; and the observation is one of the most interesting contained in the work.

8. This 'Sketch' exhibits, on the part of the author, a commendable industry, but contains some inaccuracies that detract from its value. Of the tables, we can offer only a general abstract. In Quebec, the whole number of deaths from June 8 to September 2, is estimated at 2218. In Montreal, from June 10 to August 18, total cases 4304, deaths 1727. In New York, from July 5 to August 29, when the daily Reports of the Board of Health were discontinued, total cases 5835, deaths 2251. In Albany, from July 1 to September 1, total cases 1104, deaths 389. In Philadelphia, from July 16 to August 31, total cases 2225, deaths 740. In Baltimore, the deaths from the commencement of the disease were about 600, and in Washington about 178.

9. We have yet to notice the work of Dr. Brigham, which, as is evident by the title, embraces a complete account of the disease, from its origin to the present time. In the historical part, Dr. B. assumes no other credit than that of having made a compilation from the best and most accurate authorities, and to this we believe he is fully entitled. The work presents, in fact, the most complete history of the progress of the cholera which we have yet seen, and being prepared for the most part from original documents, presents the highest claims to confidence. From the history of cholera, the author comes to the post-mortem appearances. His remarks on the very great diversity observed in these appearances, are perhaps true, of dissections performed in different parts of the world, the accounts of which, when compared, do not accord very exactly. But considerable allowance ought to be made, in instituting such a comparison, for diversities in modes of expression, and the defects necessarily incident to translated language, which, when applied to natural objects, causes a much greater apparent difference than really existed in the objects themselves. On the other hand, it will be found, that during the prevalence of the epidemic in any one place, where the conventional modes of expression are similar, and where practitioners have the opportunity to agree on the terms for designating particular appearances, the results of post-mortem examinations are remarkably uniform. In the cases which we have had an opportunity of witnessing in this place, as well as in those which we have seen described by others, the state of the mucous surface of the intestines, the character of the matters found within them, the quantity, color, and consistence of the blood found in the vessels, have presented a degree of similarity which we are satisfied cannot be equaled by the accounts of dissections in any other disease.

In regard to the *veraxa questio* of the treatment of cholera, the author appears, with great labor and diligence, to have collected all the various remedies which have from time to time been suggested, and to have arranged them under their respective authorities. Even the homœopathic treatment, of three drops of camphorated spirit every three hours, is not omitted. There is too much similarity, however, as has been justly ob-

served on this subject, in the results of all these different modes, to believe that any has exerted a very material influence on the course of the disease.

Dr. B. then gives us two lectures delivered by Broussais in Paris, in which that singular genius applies his physiological theory to this malady, and rails at English treatment, calomel and opium, frictions and stimulants, in no measured terms. He then comes to the causes of cholera, and discusses, in a very fair and candid spirit, the question of contagion. This is indeed the most elaborate portion of the work, as it is that in which the author was most called upon for the unaided exercise of his own powers, in the arrangement and application of an immense mass of scattered observations and facts. With regard to his conclusion, we shall say but little in this connection. We are perfectly willing to concede to the opponents of contagion, that the disease may be, and is, propagated by various means; but that contagion, or emanations from the bodies of the sick, affecting the atmosphere, is not among these means, will scarcely be maintained by those, who, uninfluenced by prejudice, are willing to admit the fair inference from existing facts.

We have already extended this article so far, as scarce to have room to touch on the other topics embraced in Dr. B.'s treatise, many of which are of great and permanent interest. We will only conclude, therefore, as we commenced, by congratulating the medical profession and the public, that the spirit of philosophical investigation is so thoroughly awakened among us, and is enlisted with so much zeal and earnestness in the examination of a subject, than which none in the present age presents more material for vigorous research and careful inquiry.

A Practical Guide to Operations on the Teeth. To which is prefixed a Historical Sketch of the Rise and Progress of Dental Surgery. By JAMES SNELL, Dentist, Member of the Royal College of Surgeons, &c. &c. Philadelphia: Carey and Lea. 1832.

THIS is an excellent manual, not only for the dentist, but for those who resort to him for assistance. It teaches or reminds the former what he ought to do, and how to do it in a manner the most thorough, and the easiest both for himself and his patients; and it informs the latter what he has a right to expect at the hand of an accomplished operator on the teeth. The high fees of the dentist are a subject of common conversation in this, and almost every other city, and not unfrequently the object of bitter complaint. They are certainly high, and usually, if not universally, paid, as all fees should be, when the service is completed. There is no trouble of charging, in most cases, no commissions to the collector, no discounts required, and few bad debts; so that, on the whole, no professional men are better paid, the physician surely not half so well, as dentists. Most of them support their families with ease—many in affluence. But we hold that such fees are richly merited by the operator who ac-

compleishes his work in the skilful and thorough manner described in the book before us ; and when rising from such operation, the patient has his full *quid pro quo*, and has no just cause of complaint, but much of gratitude.

Dr. Snell, after a rapid review of the history of medicine, particularly in relation to operations on the teeth, offers a few remarks on the importance to the dentist of having a chair so constructed as to promote the ease and elegance of the operations performed, and the comfort of the patient. In this, as well as every other part of his book, Dr. Snell has not stopped after throwing out general recommendations. He complains of all his predecessors who have issued treatises on Dental Surgery, except Mr. Bell, that they have kept back the most valuable part of the knowledge they have pretended to communicate. 'Much is proposed,' says he, 'but little performed ; and after the author has very liberally abused all other professors, and confidently announced that he alone is the man, and that "wisdom will die with him," the reader finds an intimation at the end of each chapter, that if he wishes to know the author's method, he must go to his residence (as a patient), where he will be enlightened in all the mysteries of the art.'

The chief excellence of the present work is the minuteness with which it describes the whole art and its appurtenances. The chair used by the author, and said by him to be superior to any other he has known, is fully described, and explained, and represented in a plate. It differs from any we have seen, and appears to possess several advantages, which we have only time and space to recommend to the notice of those more particularly engaged in this branch of surgery.

In the next chapter is an account of the different modes of extracting teeth, and the progress of improvement in this art, from the time of Ambrose Peré, who advises that 'a tooth-drawer should be expert and diligent in the use of his tooth mullets, for unless he knows readily and cunningly how to use them, he can scarcely so carry himself but that he will force out three teeth at once, oftentimes leaving the one untouched which caused the pain.'

The author, in an extensive gratuitous practice, has had opportunities for trying all the instruments that have been proposed for extracting the teeth ; and states explicitly, but with delicacy, the results of his own experience with them. He gives his unqualified preference to the ancient forceps, new fashioned, over the much-used key, and condemns very justly those machines that have from time to time been proposed for extracting the teeth perpendicularly. In both these opinions, he is supported by those of the best dentists of the time ; and it is not a little singular that after so many ages, and so many inventions, we should come back to the instruments originally used for this purpose. The precise form of each forceps, with which the operator should be furnished, and the mode in which

each should be used, are clearly and minutely described. Since, however, the use of the forceps requires an experienced hand, a species of key is recommended for the general practitioner, and such plate given of it as will enable an artist to construct one without further description.

Several remarkable accidents, that have resulted from the extraction of teeth, are briefly related, with the modes of guarding against or treating them. Descriptions follow of the various operations of brushing, filing, stopping, fastening, and scaling the teeth; and the instruments, powders, cements, &c. required, and the best modes of using them. From the chapter on *scaling* or cleaning the teeth, we offer the following extract, as a specimen of the style and spirit of the work.

The operation termed scaling is performed for the purpose of removing from the teeth a substance, very improperly denominated tartar. This substance is deposited by the saliva, and consequently the greatest accumulation takes place upon those teeth and those parts of them which are situated nearest to the mouths of the salivary ducts, viz. the back part of the front teeth in the lower jaw, where the canal from the gland empties itself, and also the outer surface of the molares of the upper jaw. Nothing is more destructive to the health of the teeth and gums than this concretion.

* * * * *

I shall first describe the operation of removing the tartar, and next the simplest method of cleaning the teeth without injuring them.

The instruments sold in the shops as scaling instruments, are without doubt the most awkward things for the purpose that can be conceived. Nothing can be worse calculated for effecting the proposed object with either ease or elegance. The principle points to be regarded, to produce as little inconvenience to the patient as possible in performing the operation of scaling, are to remove the tartar lightly, although perfectly, without jarring or using force, and without injury to either the gums or teeth. To attain these objects, the operator must possess suitable instruments, a light hand, a good eye, and a certain mechanical tact in the use of the instruments that can be acquired only by practice. Several instruments are requisite for removing the tartar, and particularly the six which I am about to describe. For the anterior part of the incisores, an instrument is sold in the shops, of a diamond shape, or spear pointed. The one which I use and would recommend, is of a somewhat different shape, being about a quarter the breadth, and slightly turned up at the point, and the back of the instrument rising to an edge, instead of being flat. The instrument should be of the best steel, and capable of taking a good edge; not that of a knife, but that of a scraper, so that when used as one, the edge will not be turned. With this instrument the tartar on the anterior surfaces of the teeth should be removed, by placing its cutting edge between the edge of the gum, and the under surface of the tartar, with the thumb or fingers of the left hand (according to the tooth operated upon) on the cutting edge, that the tooth may not be jarred. In some cases, the tartar will fly off in scales with the slightest pressure; but occasionally it adheres so strongly, that there is considerable difficulty in detaching it. This has led to the use of solvents to assist the instrument; and for this purpose powerful acids are proposed. The danger of such a practice is evident. Acids will of course have the same action on the enamel of the teeth that they have on the tartar, and consequently the former substance

will sustain injury. I shall have occasion to speak further upon the subject of applying acids to the teeth in another place ; but it is necessary here to state, that however tightly the tartar may adhere, there is no occasion for the use of these agents to destroy it. With a little care and tact in the operator, it may be removed with ease and safety. From the posterior part of the front teeth, where the tartar at all times gathers most thickly, a pair of instruments are requisite, one for the right hand and another for the left, instead of the awkward triangular one sold for that purpose. It is difficult to describe the exact bend that these instruments should have, as also their shape. The blade part should be similar to the one before described to the anterior surface of the teeth, but considerably smaller and more turned up at the point. The right hand instrument cleans the left side of the teeth, and *vice versa*. After having removed the tartar from the anterior and posterior surfaces, a thin flat instrument should be passed in between the teeth to remove the tartar between their interstices. Two or three of this kind should be procured, varying a little in shape, breadth, &c., for cases where the teeth are irregular, or otherwise awkwardly situated. The insides of the molar teeth require also a pair of instruments, right and left, of a different shape from those used for the front teeth, being much broader, cutting on one side only, and the shaft of each instrument bent in such a direction as to render it most convenient for the part it has to perform. These six instruments are essential ; others, however, are occasionally required. I trust I am one of the last persons in the world to seek to elevate the profession in the eyes of the multitude by surrounding it with mystery, or to claim a superiority over my professional brethren, founded on the possession of a great variety of instruments ; yet I am compelled to say that although those which I have named would in *general* answer the purpose of removing the tartar, if the dentist were possessed of no other varieties for this purpose he would be but indifferently supplied. The convenience of having instruments for the right and left hand side of the mouth, will, I think, be obvious. It is, I believe, a new method. I have never seen it in use, nor heard of its being employed, either for removing tartar or for extracting teeth. Although I lay a claim to the invention of these right and left hand instruments, I do so as all men in the present age of mechanical improvement ought to do ; with the admission that although I may never have either seen or heard of such instruments, yet that amongst the many scientific men which it may be presumed our profession contains, it is not improbable they may have been already introduced. After having removed all the tartar which can be got off by the instruments, it will often be found that the patient complains of the back part of the teeth being rough to the tongue, and the portion of tartar left will form a nucleus for further deposits. If the teeth are left in this state, they will require but a short space of time ere they will be again encrusted as plentifully as ever, to say nothing of the inconvenience which the patient will experience for some days after so imperfect an operation. Recourse must now be had to the magnifying mirror, before described. All the tartar thus rendered visible being removed, if the patient still complains of roughness, an instrument shaped as a scraper and suitably curved for getting at each part of the tooth, should be used ; after which, should any roughness still remain, the teeth must be carefully rubbed with a piece of fine wood, of a suitable shape, dipped in finely levigated pumice, or rotten stone, and afterwards well brushed with a pointed brush inserted at right angles into the handle.

During the operation, the patient should repeatedly rinse the mouth with lukewarm water, impregnated with Eau de Cologne, or any other aromatic spirit. In some instances, the teeth will be so loaded with tartar, that it is unsafe to remove it all at one time. Where this is the case, that part which is nearest the gums should be first removed, so that they may be thoroughly relieved. This being accomplished, the patient should be desired to use some proper application to the gums for a week, which will tend to their eventual restoration. The following lotions may be used: *R. Aluminis 3iss. Tinct. ratane, Tinct. kino, aa 3iss. Mist. camphoræ 3iss. Misce. R. Decoct. quercus 3iv. Vinum rubri 3ij. Misce.*

Where the gums are not much inflamed and are spongy, the vessels should be relieved by free incisions with the lancet, or leeches may be applied, and this lotion used:—*R. Decoct. hordei. comp. 3viij. Potassæ nit. 3ij. Misce.*

Nothing tends more to create a healthy action in the parts, than relieving the overcharged vessels. If the inflammation should not be subdued in a few days, the lancing should be repeated. When they are somewhat relieved, and the teeth show signs of fastening, the remaining tartar should be removed, either at one or more sittings, until the teeth are perfectly freed from it, and no roughness is felt to the patient's tongue. After the tartar is removed, the teeth are often of a dark lead color, and this cannot be remedied by instruments. The general way of improving the appearance of the teeth, is by applying some one of the mineral acids with a camel hair brush; and amongst many dentists this, which is termed making the teeth white, is the invariable termination of the operation of scaling. By the improper use of acids, that beautiful polish natural to the enamel is injured; and where the application is repeated, layer after layer is removed, until the enamel is totally destroyed or honey-combed. Pits and spots of brown appear, and the teeth become morbidly sensible to changes of temperature, pain being produced from cold air or water. This state cannot long exist without inflammation attacking some of the teeth, and premature decay is the consequence. Considerable improvement may be effected without any improper use of acids; but it must be laid down as a general rule, that no teeth ought to be made whiter than their natural color; any attempt to surpass this will be dangerous. All extraneous particles, all stains, spots, &c. having been carefully removed, the surface of the teeth should be polished; this may be done without the slightest danger. It will be found that in proportion to the height of their polish, the aptitude to become discolored is diminished. The method of polishing I shall describe. After all extraneous particles are removed, as far as they can be with instruments, the teeth will not unfrequently present a filthy appearance, by being covered with a dark brown, black, or green fur. This must be removed with a small piece of soft, tough wood, cut to a convenient shape, dipped into extremely fine levigated pumice stone, with which the discolored part should be rubbed, until the stain disappears; after which the teeth, on the part before acted upon, should be polished with some testaceous powder. This method requires a little time; but the reward is equal to the labor, as instead of leaving a surface, which although white is rough, and consequently prepared for the adhesion of the first coloring matter contained in the food, a surface highly polished is obtained, the teeth are left just as white as nature ever intended they should be, and rendered less susceptible of again becoming discolored.

Familiar Lessons in Mineralogy and Geology, Designed for the Use of Young Persons and Lyceums. In two Volumes. By JANE KILBY WELSH, Author of 'The Pastime of Learning, with Lessons in Botany.' Volume I. pp. 404. Clapp & Hull, Boston.

In addition to the works thus far noticed in the present number of this Journal, we have received for examination a handsome duodecimo bearing the above title. This volume contains lessons in Mineralogy and Conchology, written in a familiar style, suited for family use, and illustrated by about 80 engravings. The fair author of this manual has gathered information from sources the most authentic, and given it a form that cannot fail to be inviting to the mind of the young. Already well known, and having done a share of service to the rising generation by her illustrations of vegetable nature, she will fix still more firmly the foundation of her fame by these more profound investigations. The science of Botany is rendered familiar and attractive, more easily than that of Mineralogy; the phenomena of life afford, in the former, almost exhaustless sources of variety and beauty, by which the interest of the reader may be kept alive. In the present volume, Miss W. has exhibited a happy tact in accomplishing the same object, in a branch of science in which she had not their aid. We hope she may attempt, at some future period, the easier task of a similar work, in which sensation as well as life will furnish material for her descriptions.

The Cholera Asphyxia of New York. By MARTYN PAINE, M.D. pp. 160. New York.

THIS excellent volume consists of Dr. Paine's letters on the cholera recently published in this Journal, with several others of equal interest and value. We regret that the late reception of this work, and the want of room, must prevent our doing anything more than recommend it to the reader.

The favors of Drs. North and Allen were duly received.

Whole number of deaths in Boston for the week ending Oct. 27, 45. Males, 98—Females, 17. Of convulsions, 3—cholera malignant, 14—disease of the heart, 1—old age, 2—consumption, 5—lung fever, 2—croup, 1—mortification, 1—marasmus, 1—diarrhea, 2—burn, 1—typhous fever, 1—intemperance, 1—dropsy on the brain, 3—teething, 1—accidental, 1—dysentery, 3—fever, 1—scarlet fever, 1—hooping cough, 1—drowned, 1.

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Brunswick, October 8, 1832.

Oct. 31. eop5t.

P. CLEAVELAND, Secretary.

Printed and published by CLAPP & HULL, 184 Washington Street, Boston.—\$3 a year, in advance.